2010 Lean Systems Summit – Northeast
Where Government, Services, and Manufacturing Meet

"Leading the way to Lean Excellence"

Portland, ME

August 12-13, 2010

MAINE MEP

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Proprietary and Confidential

Our Mission:

To create growth opportunities for Maine's small and medium sized manufacturers, by helping them become more efficient, productive and globally competitive

Our Vision:

Maine MEP's vision is to be the premiere service delivery resource for Maine manufacturers, providing enterprise wide transformation, product and process innovation, and financial sustainability. Maine MEP will accomplish this by building capacity within the manufacturing supply chain, while creating new market opportunities, thus increasing the economic impact for manufacturers and the state of Maine

Leading the way to Lean Excellence

I. Fundamentals

II. Creating Focus and Driving bottom Line results

III. Lean Implementation and Deployment

IV. Culture and Continuous Improvement

Introduction to Lean

Initial Reactions to "Lean"

- "Skinny … Weak … Fragile…"

- "Lean will cost us jobs…"

- "I heard that Lean is …"

- "We" are different …

- If we just go along with it … Maybe it will go away…

- This is just 'common sense'

- We used to do it this way before…

- Sounds like TQM, Quality Circles, six sigma …

- How are we going to find the time to do this?

- 'Other people' are coming here to look at *my* process?

Introduction to Lean

<u>Is there "one" way or a single "correct" way to Implement Lean?</u>

Beth Israel Deaconess Medical Center — A TEACHING HOSPITAL OF HARVARD MEDICAL SCHOOL

XBOX

GE

Wellmark. BlueCross BlueShield — Your Health. Well Protected.™

TOYOTA

Medtronic

JACKSONVILLE POLICE

THEDACARE™

> *All of these Organizations use "Lean" in different ways. All have been successful meeting **their** Objectives.*
>
> *…Constructing **your** Lean Journey is where you must begin…*

What is Lean?

Kaizen

VSMi® (Information)

Production Boards

Lean Supply Chain

Enterprise VSM (VSM)

Theory of Constraints

Combination Sheet

SMED

Spaghetti Diagrams

Strategy Deployment

5s

Visual Management

SPC

TPM

Leveling

Value Stream Mapping (VSM)

Pull/Kanban

A3

Six Sigma

Takt Time

3P

Time Observation

Heijunka

*Lean is not about tools. Lean Tools are used to "Identify" opportunities for Improvement.*

What is Lean?

❑   Lean provides a *methodology* that enables us to look at our processes in an non-emotional, quantitative way.

     ➢ *Patient Flow*
     ➢ *Information Flow*
     ➢ *Material* Flow

❑   Lean *tools* are designed to with two objectives in mind:

     ➢ *Identify* waste
     ➢ *Eliminate* waste

> **It is not good enough to Identify Waste … You must work (hard) to Identify and Eliminate the 'Right' wastes**

Lean Fundamentals

Future State

Current State

Eliminate Waste

Identify Waste

Eliminate Waste
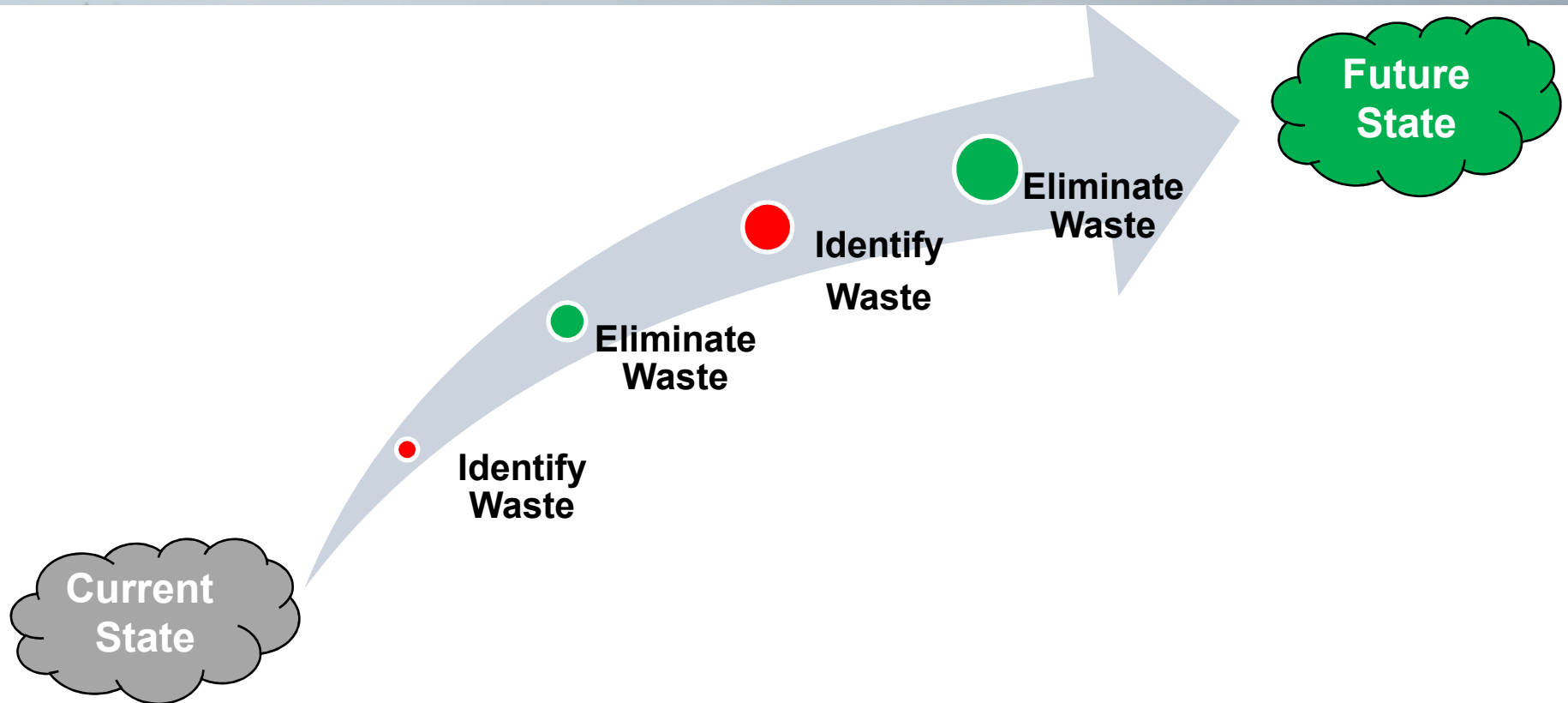
Identify Waste

Lean is not about doing the things you do today and doing them faster tomorrow … Lean is about Identifying those things that today you 'must' do, but if we change the process, we will no longer have to do them…

Value Added

- **How long will you spend at the Hospital?**
  - Registration
  - Triage
  - Waiting
  - Pre Screen
  - Diagnosis
  - Treatment

- **How long will you be at the Park?**
  - Ride the Rides
  - Wait in Line
  - Eat the Food
  - Play the Games

What is the "Value"?

8

Non-Value Added

■ "Non-value adding" tasks are those tasks that consume time, material, resources but do not satisfy the needs of the customer

- Waiting
- Searching
- Sorting
- "Fetching"
- Clarification
- Moving
- Stacking
- Walking
- Multiple IT systems/Forms (same information)
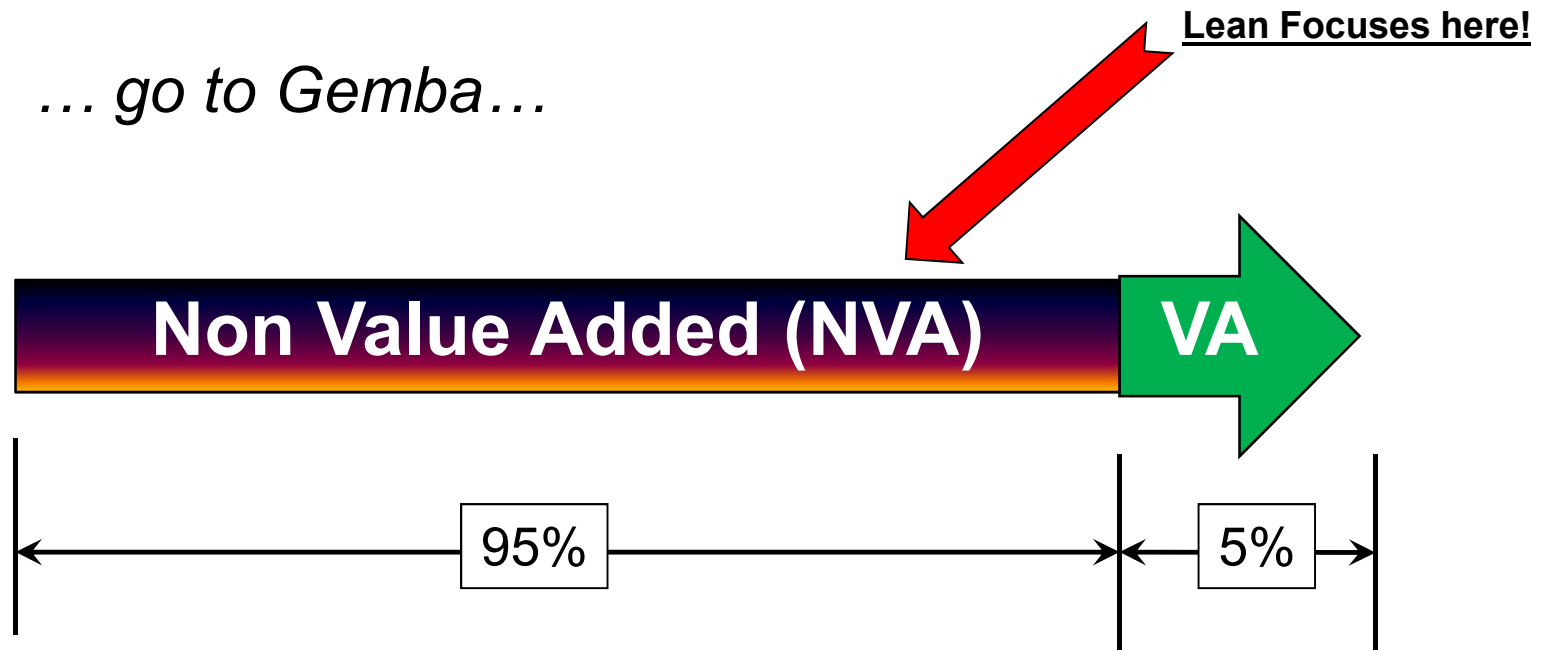- Rework (re-test, re-scan, returns…)
- Transportation

Work ≠ "Value Added"

Question: In your Business Processes, "what % of the time does information arrive 'complete and ready to go?'"
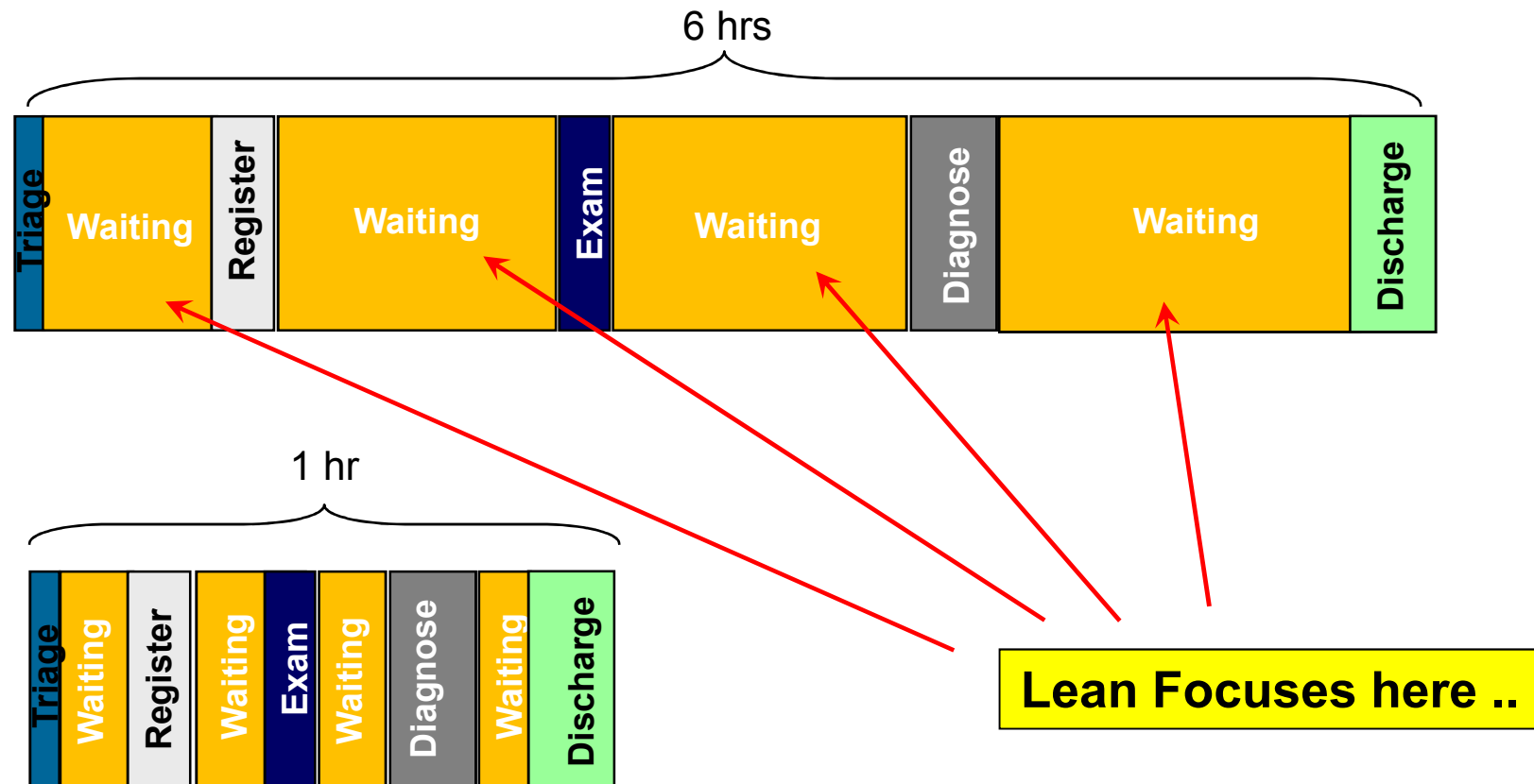
Learning to "see waste" is the journey

… go to Gemba…

Lean Focuses here!

| Non Value Added (NVA) | VA |

| 95% | 5% |

If we 'mapped' your patients (or parts or documents) going through *your* Value Stream, what would they see?

Time is a great indicator…

6 hrs

| Triage | Waiting | Register | Waiting | Exam | Waiting | Diagnose | Waiting | Discharge |

1 hr

| Triage | Waiting | Register | Waiting | Exam | Waiting | Diagnose | Waiting | Discharge |

Lean Focuses here ..

11

Why Lean ?

➢ Lean creates *Results*:
   ✓ Through proper focus, involvement and methodology, "Lean" is an enabler for process *Execution* and *Improvement*

➢ Lean is about *Implementation*:
   ✓ The infrastructure supporting Lean creates the internal capability to effectively Identify and solve problems at all levels

➢ Lean develops your *People*
   ✓ Companies excel because their People and their Processes excel. "Lean" enables people to excel *through* process excellence.

"If we had the will and desire to implement these changes, we would not need Lean. However if "Lean" is what provides us with the will and desire to Implement … we need Lean," **Tuomo Pienihäkkinen – GE Healthcare**

Executives: Why Lean?

❑ Lean creates *Operational Capabilities*:
  ➢ Build business *processes* that excel (Sales, NPD, NPI, Service…)
  ➢ *Systematize* the cycle of Waste Identification, Waste Elimination and Process Development-Implementation-Deployment

❑ Lean (can) impact your P&L:
  ➢ When structured properly, improvement resources can be targeted to impact specific aspects of your Income Statement and/or Balance Sheet
  ➢ Selecting the right "Events" is the key to ROI

❑ Lean provides a process for *Deployment of Strategy*:
  ➢ Communicating Objectives, linking "Objectives to processes" and "processes to daily metrics" is the key
  ➢ Understanding and valuing the differences between "Daily Management" and "Breakthrough Objectives" is the beginning…

"… if your controller can't measure it, it doesn't count…"

Leadership Challenges: Lean Infrastructure

I.   Fundamentals

II. Creating Focus and Driving bottom Line results

III. Lean Implementation and Deployment

IV. Culture and Continuous Improvement

Define Business Case

Define your Business Case:

- **If you could improve any 2 metrics by 15% in the next 12 months, what would you select?**

- **Be Specific:**
  - Wait Time
  - Capacity
  - Cash
  - Lead Time
  - Backlog
  - Quality
  - Velocity
  - Productivity
  - Speed to Market
  - Cost

> ✓ What does good look like?
> ✓ Now you know "What" to Value Stream Map

Define Metrics

Define your Metrics:

- **How will you measure success?**
- **Define your Numerator**
- **Define your Denominator**

Example ("Bottom Line Improvement"):

- Cash
- Gross Margin
- Gross Profit
- EBIT
- Return on Investment (ROI)
- Performance to Budget

- ✓ Understand clearly 'what makes your numbers move'
- ✓ Now you know "how" to look at your process

Determine Focus

Determine your Focus:

- Where in your Enterprise is your leverage?
- Which Value Streams impact you metrics?
- Where is your impact?

… You must select the "right" Value Stream(s)…

✓ Where is your leverage?
✓ Now you can define the scope and breadth of your deployment

Identify and Eliminate the (Right) Waste

The "Right" Wastes:

- Within your critical Value Streams, where is your leverage?
    - ❑ Identify the "right" wastes
    - ❑ Eliminate the "right" wastes
    - ❑ Use the "right" tools

Improvement resources are finite … you can spend those resources on high impact areas or "mis-spend" resources on low impact areas

Leadership Challenges: Lean Infrastructure

I.   Fundamentals

II.   Creating Focus and Driving bottom Line results

III.   **Lean Implementation and Deployment**

IV.   Culture and Continuous Improvement

Executive Steering Committee: Develop Plan

- **Strategy …**
  - Clear Business Case for Lean (2 key measures)
  - Defined Roles and Responsibilities of Executive Team
  - Lean "selected" as methodology of choice for improving performance

- **Infrastructure …**
  - Capture/Share Lessons Learned
  - Common Approach (3-5 day Kaizen events, Projects, Local Improvement)
  - Common Understanding (Training materials, Classes, "Model line")
  - People Development (Employees, Managers, Executives, Internal Experts)

- **Execution**
  - Structure for Improvement (Lean Core Team, Early Guidance, Self sufficiency)
  - Structure for conducting lean activities (focus, prep, approach, sustain)
  - Culture acceptance and confidence

To improve our processes, we must improve our processes …
…To improve our (Lean) process, we must develop a Process for Lean

How Should I engage Lean?

I. **Understand the Factors that (should) affect your decision**

- **Culture**

    - Current/Previous Management Style

    - Current Supervisory Style

    - Current/Past Degree of Employee Involvement

    - Trust level of Management (Employees eyes)

    - Experience in *Change/Employee Involvement*

    - Current Tools/Methodologies in *use*

Understanding your (company) Culture is a key to properly structuring your Lean Journey:
- How will you Implement Lean?
- How fast can you go?
- What will it take? (people, process, time)

How Should I engage Lean?

I. **Decision factors (continued)**

- **Commitment**

    - **What is *your* personal commitment to the Lean Journey?**

    - **Do *you* understand the resource commitment involved?**
        - Funding
        - Personnel
        - Timeframe
        - Personal Involvement

    - **Have you conveyed to your Boss(es) what to expect and when they should expect it?**
        - Directors
        - Executives
        - Board of Directors

> There are many 'acceptable' degrees of commitment. Make sure your ***Expectations*** *are aligned with your* ***Commitment*** *level…*

Methods for Implementation

Training

- Tools Focus
- Emphasis on "what"
- JIT training model
- General Concepts only
- Low Cost
- Understanding (not Buy In)
- Marginal ROI
- Missing skill set

Kaizen

- Implementation Focus
- Emphasis on "how"
- Tactical Approach
- Cross Functional Teams
- Teaches Tools and concepts
- Involvement = Buy In
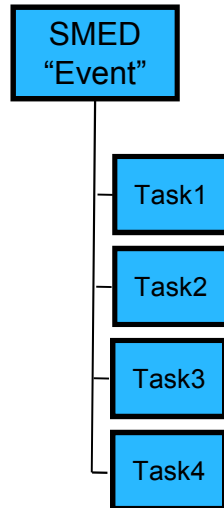- Local ROI
- Improving a process

Strategic

- Business Focus
- Emphasis on "why"
- Strategic Approach
- Leadership's plan
- Creates Vision/confidence
- Enterprise Alignment
- P&L Impact
- Developing Capability

Effective Lean Transformation implement through the appropriate combination of each technique
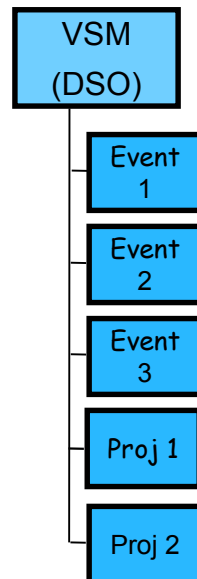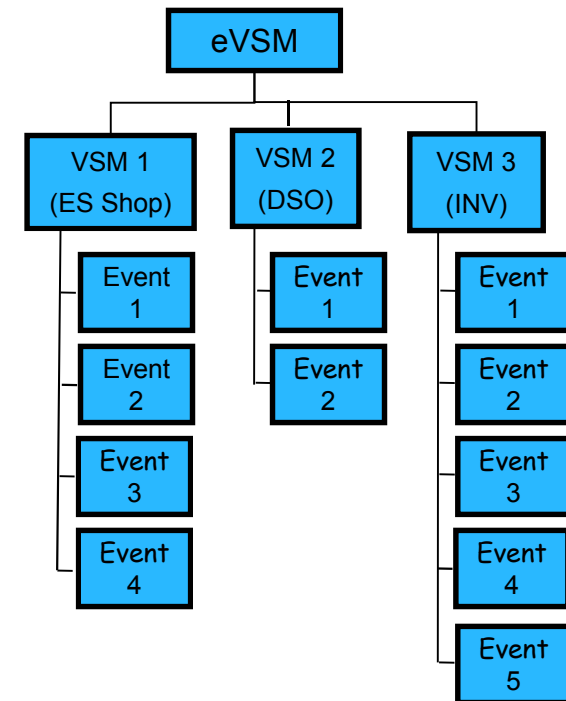
Engagement Models for Lean

Project

SMED "Event"
- Task1
- Task2
- Task3
- Task4

- Local Results
- Impact within *Sub-Value Stream*
- Introduction of Lean Methodology
- Perilous Implementation

Value Stream

VSM (DSO)
- Event 1
- Event 2
- Event 3
- Proj 1
- Proj 2

- Bottom Line Results (Medium Impact)
- Impact within a *Value Stream*
- Use of Lean Methodology
- Engagement draws attention

Business Unit

eVSM
- VSM 1 (ES Shop)
  - Event 1
  - Event 2
  - Event 3
  - Event 4
- VSM 2 (DSO)
  - Event 1
  - Event 2
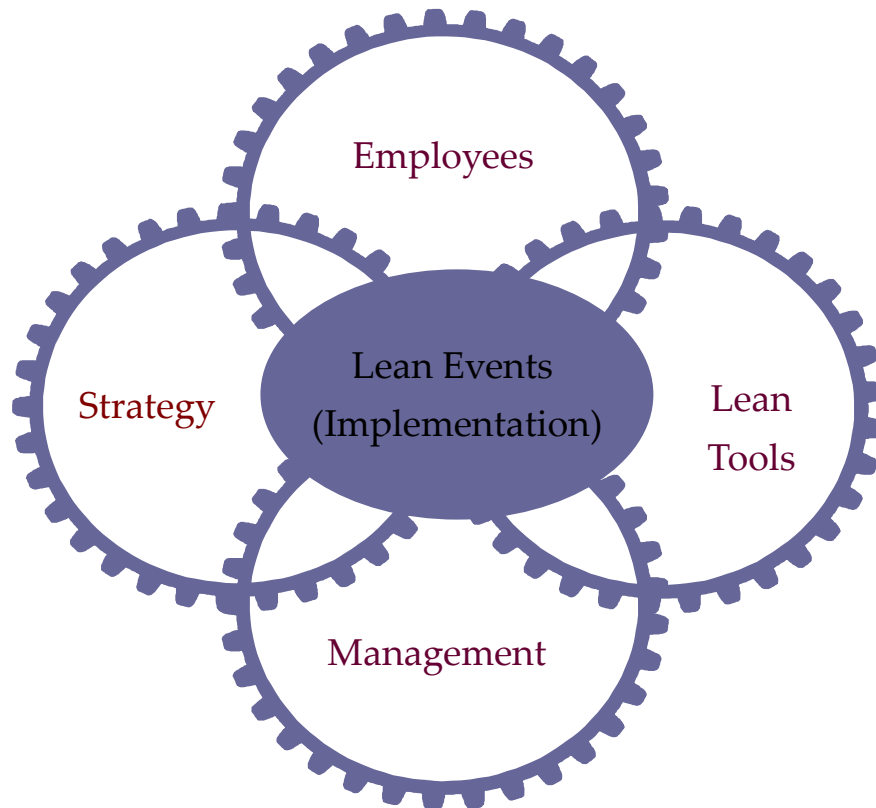- VSM 3 (INV)
  - Event 1
  - Event 2
  - Event 3
  - Event 4
  - Event 5

- Culture Change
- Bottom Line Results (Highest Impact)
- Multiple Value Streams (Leverage)
- Ensures full Implementation of New
Process, Visual Management, and Lean Methodology

What is a Lean Event?

Employees

Strategy

Lean Events
(Implementation)

Lean
Tools

Management

Lean Events

- Implementation focus
- Aligned with 'Business Case'
- Employee Involvement 6-10/team
- Document *processes* (SOP's)
- Establishes Metrics & Leading Indicators
- Improvement owned by local management
- "1+1+1 = 7"

The Lean (Kaizen) Event Process

Lean Events:

- *Always* begins with a Charter

- Involve the people who **do** the work

- Utilizes cross functional team from the Value Stream. Typically 6-8 persons on a typical Lean Event Team

- Used for Implementation: Design, Develop, Document (SOP's) and Implement locally.

- Deployment or training throughout region is typically done internally, using the materials developed and piloted during the Lean Event

- Lean Event approach ensures a *new process* in place by Friday of the Event week

- Multiple Lean events needed to improve a typical Value Stream

- Multiple Value Streams typically engaged at any time

- Improvement Metrics are "Value Stream" Metrics

> **Lean Events are the primary mechanism used to ensure that actual improvements to our *Processes* occur. Lean Events demonstrate both "what" is possible and "how much" can be accomplished in 5 days**

Lean Event Deliverables (5 Day Investment)

- ➤ New Process developed and implemented

- ➤ SOP's, KPS's and FAQ's written

- ➤ Local training completed

- ➤ Leading indicators developed (daily tracking in place)

- ➤ Metrics identified (tracking in place)

- ➤ Impact calculated

- ➤ Next steps identified, action plan in place (as needed)

… Knowledge Transfer …

Knowledge Capture

Every Lean Event *must* have an event summary:
- "Storyboards" are best (powerpoint, 15-25 slides)
  - Describe the Objective, approach and *evolution* through the week
  - Capture Lessons Learned
  - Measure Results
  - Serves as "historical record" of the event and process
  - Enables Others to *Learn* from the event
  - *"Raised the Bar"* to performance, execution and *process*
  - Protects your *investment* in your Lean Event

- Summaries are acceptable (2-3 pages)

If you do not take the time to document the process, lessons learned, accomplishments, metrics and leading indicators (as part of the Event itself), when will you ever document it?

# Leadership Challenges: Lean Infrastructure

I. Fundamentals

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IV. **Culture and Continuous Improvement**

Lean Culture

To Understand "Culture", you must begin with understanding Values

Toyota "Values:"

- **Respect for People**

  - Teamwork

  - Respect

- **Continuous Improvement**

  - Challenge (Responsibility, Common Objective)

  - Genchi Gembutsu (go to the workplace)

  - Kaizen
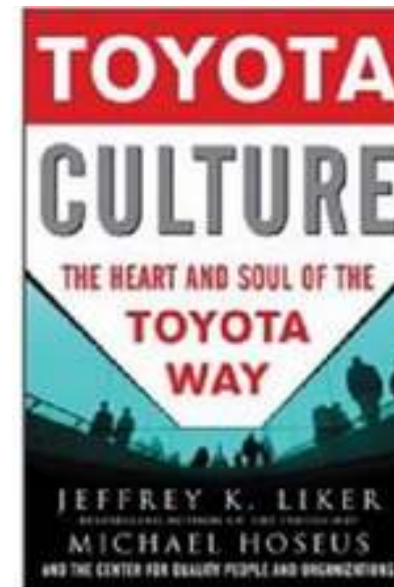
In your Organization are these your "Values" … your Management Teams Values… your Employees values…
Do these Values need to become your Values?

Lean Culture

Characteristics of Lean "Culture"

✓ Clear Strategy (high level), Objectives (mid levels)

✓ Internal structure to support, encourage and identify problems (opportunities)

✓ Internal structure to *execute* and *sustain* Continuous Improvement

✓ Processes for "Continuous Improvement"

✓ Processes for "Knowledge Capture"

✓ Processes for "Knowledge Transfer"

✓ Processes for People Development
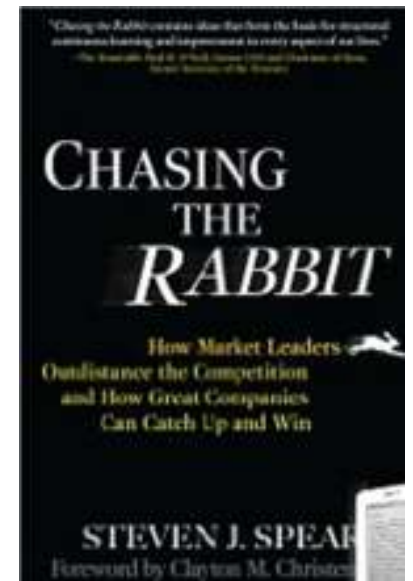
"Culture" is a Resultant … not an Objective

Lean Culture

Things you will see when walking through a business with a strong Lean "Culture"

- ✓ Communication Boards
- ✓ Mission Statements
- ✓ Visual Management
- ✓ 5S
- ✓ Cells
- ✓ Kanban
- ✓ Quality Circles
- ✓ Lines on the Floor

- ✓ Posted Standard Work
- ✓ Leveled scheduling
- ✓ Kaizen Events
- ✓ A-3 … in action
- ✓ Performance tracking (Cell level)
- ✓ Performance tracking (Business level)
- ✓ Active Employee Participation
- ✓ Value Stream Maps

Lean Culture

Things you will see when walking through a business who has no idea what Lean Culture is … Copying 'things' is not a measure of a lean culture…

- ✓ Communication Boards
- ✓ Mission Statements
- ✓ Visual Management
- ✓ 5S
- ✓ Cells
- ✓ Kanban
- ✓ Quality Circles
- ✓ Lines on the Floor

- ✓ Posted Standard Work
- ✓ Leveled scheduling
- ✓ Kaizen Events
- ✓ A-3 … in action
- ✓ Performance tracking (Cell level)
- ✓ Performance tracking (Business level)
- ✓ Active Employee Participation
- ✓ Value Stream Maps

It is not about the 'stuff' you do, its about (1) the processes you (choose) to put in place, (2) the way you choose to execute those process, (3) the consistency of methodology and approach (Leadership)

Summary: Paying for Lean

Is Lean free?

... Yes!!

- … with the proper Strategy and Execution
- … If you develop the proper Infrastructure to support the process
- … If you 'capture' the savings created by eliminating the 'right' waste
- … If you develop your Leadership Team to utilize/support this capability

... No Way!

- … if you have no Strategy … Focus ...
- … if you do not achieve the confidence of your employees or middle management
- … if you are not prepared to 'work' toward creating this as a 'Capability'
- … if you enable everyone to have personal 'veto power'

To 'earn' the results, you must 'train.' Are YOU willing to do the heavy lifting it will take to build this capability?

The Lean Journey

| Year 1			

- Executive leadership is the key to success

- Lean "Strategy" must be defined

- Customized tools, training materials and structure for Lean is imperative

- Organization is learning the process and the tools

- Approach is more "project based"; Implementation is tools focused

- Knowledge Capture is key to *accelerating* Knowledge Transfer

- Local improvements/success is common

- Typically 30-40% of business engaged in lean activity

- Culture has not necessarily accepted that change is the norm

- Bottom line results are imperative (CFO/CEO)

The Lean Journey

Year 2
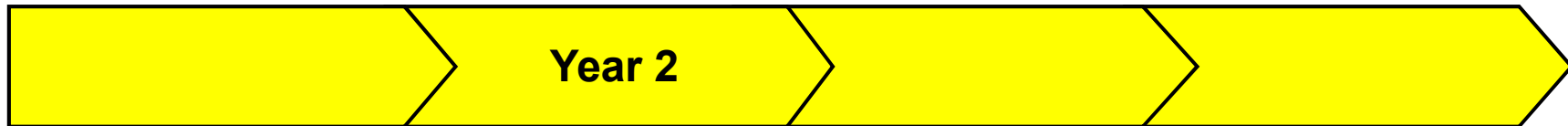
- Culture will accept or rebel (leadership's most difficult year)

- Lean Core Team still learning and making mistakes

- Lean strategy stops seeing Lean as "tools"

- Value Stream implementation model is imperative to bottom line results

- Operational Capabilities linked with Business Strategy

- Internal Lean skills enhanced by 'infrastructure' developed in year 1

- Extreme variation in supervisor performance (skill gaps/development)

- Struggle with deployment strategy

- Deployment far too dependent on Lean Core Team

- By year end, results become irrefutable… succession plans are imperative

The Lean Journey

Year 3
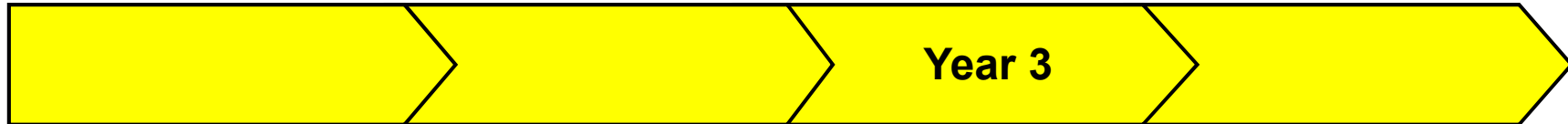
- Successful transformations will lose 25% of exec team…

- Lean Infrastructure (Process, People, Materials) will begin to take shape

- Last of the cells will be transitioned into "Value Streams"; 3rd and 4th passes will have been completed by some Value Streams

- "Materials flow" is well understood and 2nd and 3rd generation "kanbans', cells and standard work evolving

- (In Manufacturing) Lean Supply Chain is imperative

- "Information flow" clearly seen as direct impact to P&L (Sales, Finance, NPD, NPI, HR .. Etc)

- Management and Leadership (skills) development is key

- Strategy Deployment becomes the management vehicle of choice

The Lean Journey

Year 4
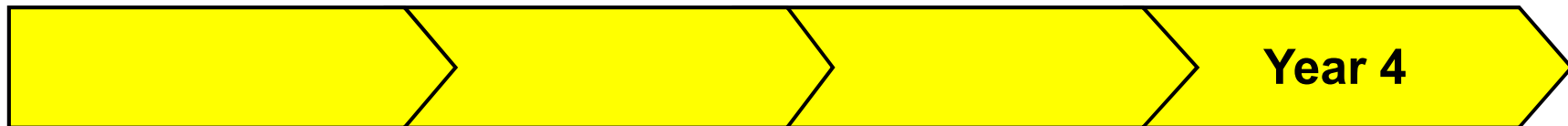
- Operational capabilities are used to capture market share

- Lean Strategy aligned to support 3-5 year Business Strategy

- People development viewed as one of the most important 'value streams'

- Change accepted as the norm

- Kaizen events welcomed as resources to improve processes

- Lean experts are 10% of the workforce

- Clear use and practice of Strategy Deployment

- Company culture changed in many areas

The Lean Journey

- **In a Lean Journey, there truly is no end**
- **NO two Lean journeys are the same (do not _copy_ "Toyota")**
- **The realities in our Businesses and changes in the competitive landscape all influence the "Business Imperatives" at any given time**
- **What may begin as a Capacity opportunity may quickly shift to New Product Introduction (velocity) or Cash flow for the business**
- **Retention of highly developed individuals will be a challenge in all successful Lean Journeys.**
- **Different product families and different distribution channels will present varying 'opportunities' for those who are capable of Deploying and Leveraging such opportunities**
- **Even our 'top ten issues' list is not stable as (fixing Item #1 often times resolves items #3 & #7, but amplifies item #6 to the new #1 concern.**
- **Lean in its most basic form simply helps us "Identify Waste." Office/factory … material flow/information flow … Sales/Supply Chain … Waste exists in multiple levels in all aspects of our business**